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FIELD REPORT

M. G. McLaren, P. C.
Consulting Engineers
100 Snake Hill Road
West Nyack, NY 10994

PROJECT: Contact Tank
 Greenburgh, NY

FIELD REPORT NO: 05
ENGINEER'S PROJECT NO: 99010

Date: March 25,26, 2004 Weather: Overcast/ Sunny
Time: 9:00 A.M. – 6:00 P.M., 7:30 A.M. – 3:00 P.M. Temp. Range: 45 Degrees F./50Degrees F.

Work in Progress: Selective Demolition of the Contact Tank Roof Slab

Present at Site:

Ken Cioce – Town of Greenburgh (Part Time)
Tony Capicatto – Dolf Rottfeld (Part Time)
Tony Crescimanno – Cal Mart Enterprises, Inc.
Cammy House – Cal Mart Enterprises, Inc.
Louie Ferrera - Spectra Serv
Rick Mahoney – M.G. McLaren, P.C. (MGM)

REPORT BY: W. Richard Mahoney, P.E.

The scope of this report is the observation of the selective demolition of the concrete top slab of the contact tank in the locations identified on M.G. McLaren, P.C. drawing T1 dated December 9, 2003, recording of the reinforcing bar sizes, positions, bending details, clearances and spacing and reporting of any conditions that do not conform to the contract documents.

OBSERVATIONS:

The two areas selected for demolition encompassed the cores that were extracted on March 10, 2004. One area was located at the east side of the contact tank and the other area was located at the west side of the tank. Concrete was removed gradually by an air-powered jackhammer to prevent displacement

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of the reinforcing bars. Clearances from the top of the slab to the top of the reinforcing bars was determined by placing an 8'-6" long strait edge parallel to the edge of the tank supported by the edges of the hole and measuring from the bottom of the straight edge to the top of the bar using a steel rule. (See Photo #1.) Clearances from the inside face of the wall to the wall reinforcing bars were measured using an adjustable square.

We found that the reinforcing bar placement that was observed did not conform to the contract drawings. While the bar size and spacing did conform to the drawings, we found that the clearances between the reinforcing bar and the concrete surfaces did not conform to the contract drawings. These findings are shown on sketches SK 040404-1, SK 040404-2, SK 040404-3 and SK 040404-4. The dimensions that are shown on these sketches are the averages of the dimensions taken to each bar in each area. (See photo #2 through #7 for the arrangement of the reinforcing steel.)

The bottom slab bars were set approximately 2 1/2" above the bottom of the slab and the hooked end of the bar was set approximately 2 to 2 1/2" from the edge of the slab. The contract drawings showed that the correct clearance should be 1 1/2" in both of these cases. The hook at the end of the bar at the east side was not the correct length. This hook was correctly detailed as a standard hook, 8" long on the shop drawings. The hook of the bar that was installed was only 5 1/2" long. There was no longitudinal in the hook of the rebar as shown on the contract drawings.

The top slab bars were set down 2.18" and 2.65" from the top of the slab at the east and west side areas respectively. The contract drawings indicated that this dimension should be 1 1/2".

The inside wall bar was set back 3.1" and 1.85" from the face of the wall at the east and west side areas respectively. This dimension should have been 1 1/2". The top of the hook of this bar was set down 5.83" and 6.85" from the top of the slab at the east and west sides respectively. The contract drawings indicated that this dimension should be 1 1/2". There was no longitudinal in the hook of the rebar as shown on the contract drawings.

The outside wall bars were set back 2.38" and 1.98" from the outside face of the wall and the top of the hook of these bars were set down 3.29" and 4.35" from the top of the slab. The contract drawings indicated that these dimensions should be 1 1/2". There was no longitudinal in the hook of the rebar as shown on the contract drawings.

We found that the water-stop at the east side was folded over at approximately 45 degrees in one area. We also found that clods of dirt had been encapsulated up against the water-stop by the concrete at the west side when the concrete had been placed. Both of these conditions would prevent the proper function of the water-stop. (See photo #8 for the impression of the folded over water stop at the east side and photo #8 and #9 for the clods of dirt at the west side waterstop.)

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In discussions with Louie Ferrera on March 25 and 26, he revealed that during the pressure test that Spectra Serve conducted the test pressure may have reached 15 pounds per square inch which was greater than the test pressure. It should be noted that the gauge that had been used for the test has calibrated between 0 and 100 psi. and that during the test the needle that registered the pressure fluctuated erratically over a wide range of pressures. (See photo 10.)

End of Report

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Photo No. 1 – East Side – Measuring Bar Position

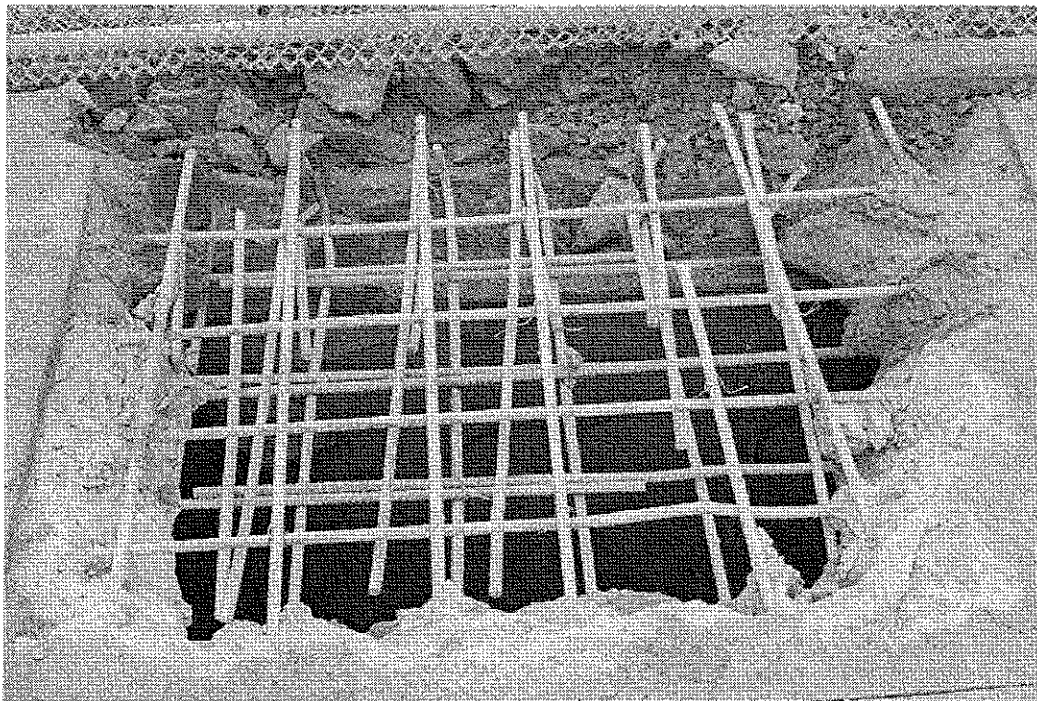


Photo No. 2 – East Side Bar Arrangement

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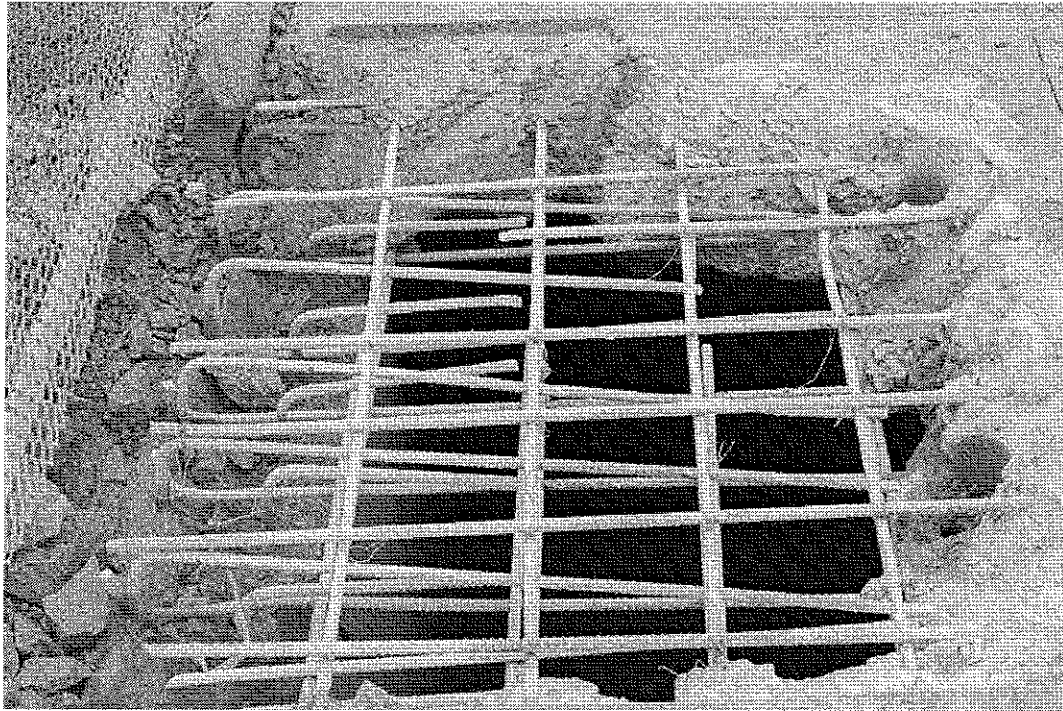


Photo No. 3 – East Side Bar Arrangement



Photo No. 4 – East Side Bar Arrangement

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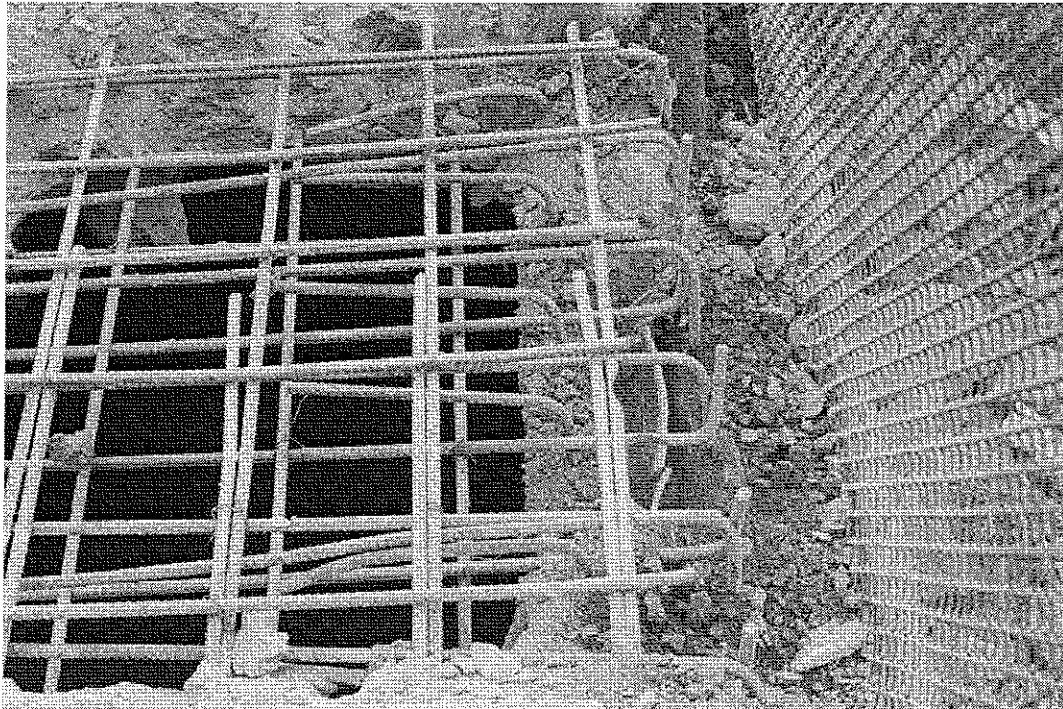


Photo No. 5 – West Side Bar Arrangement

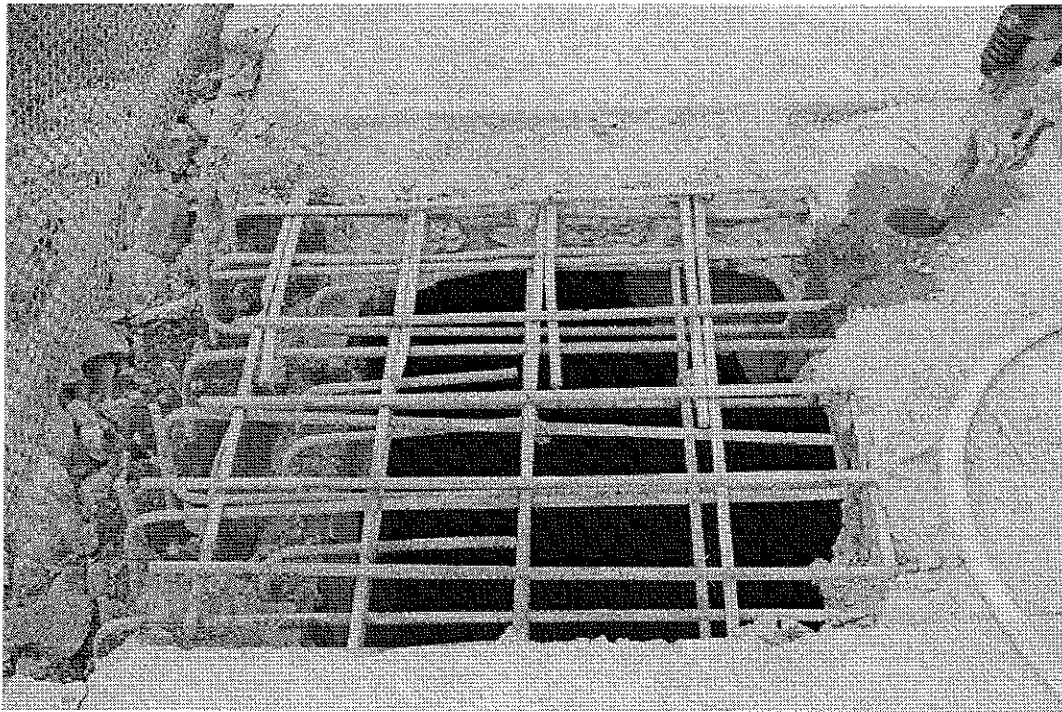


Photo No. 6 – West Side Bar Arrangement

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Photo No. 7 – West Side Bar Arrangement

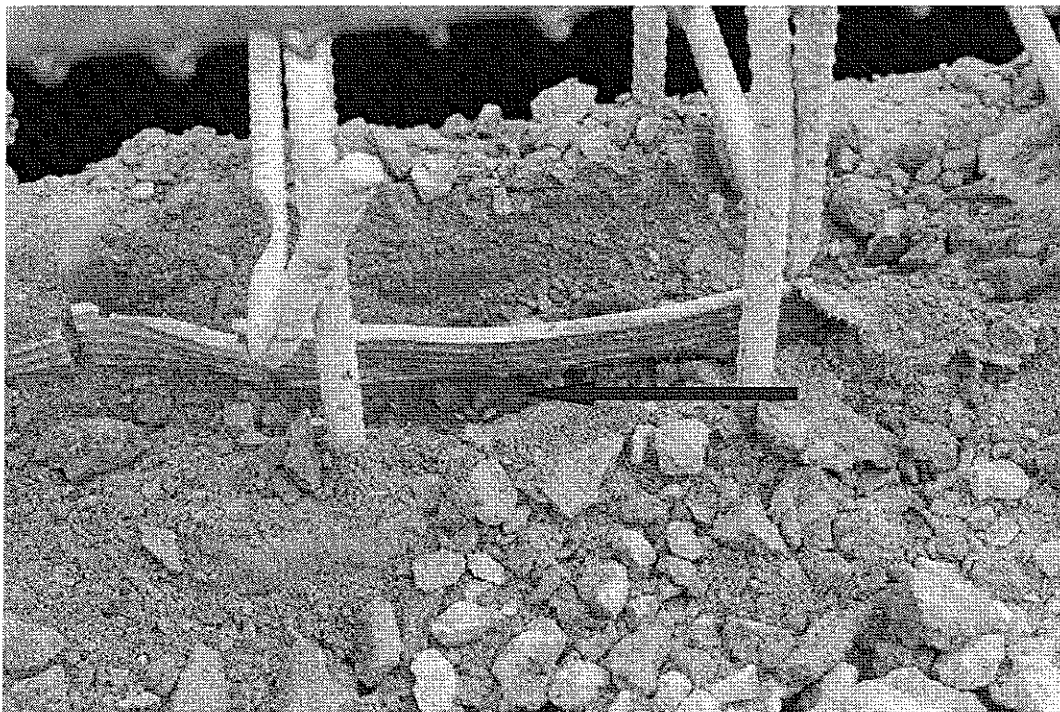


Photo No. 8 – West Side – Soil in Construction Joint

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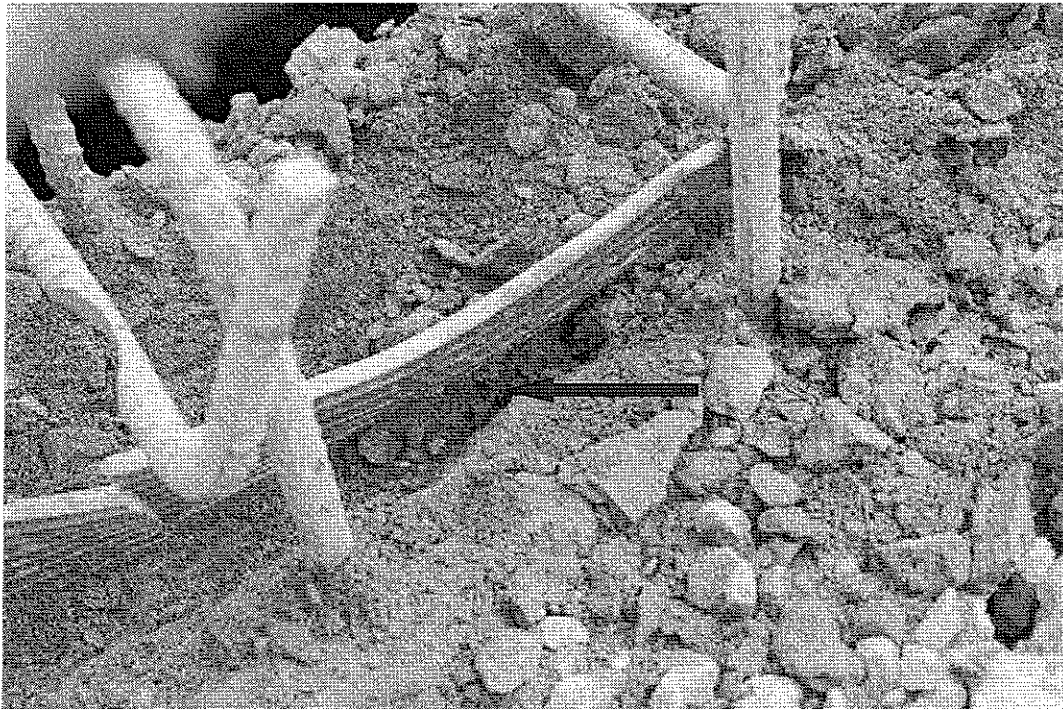


Photo No. 9 – West Side – Soil in Construction Joint

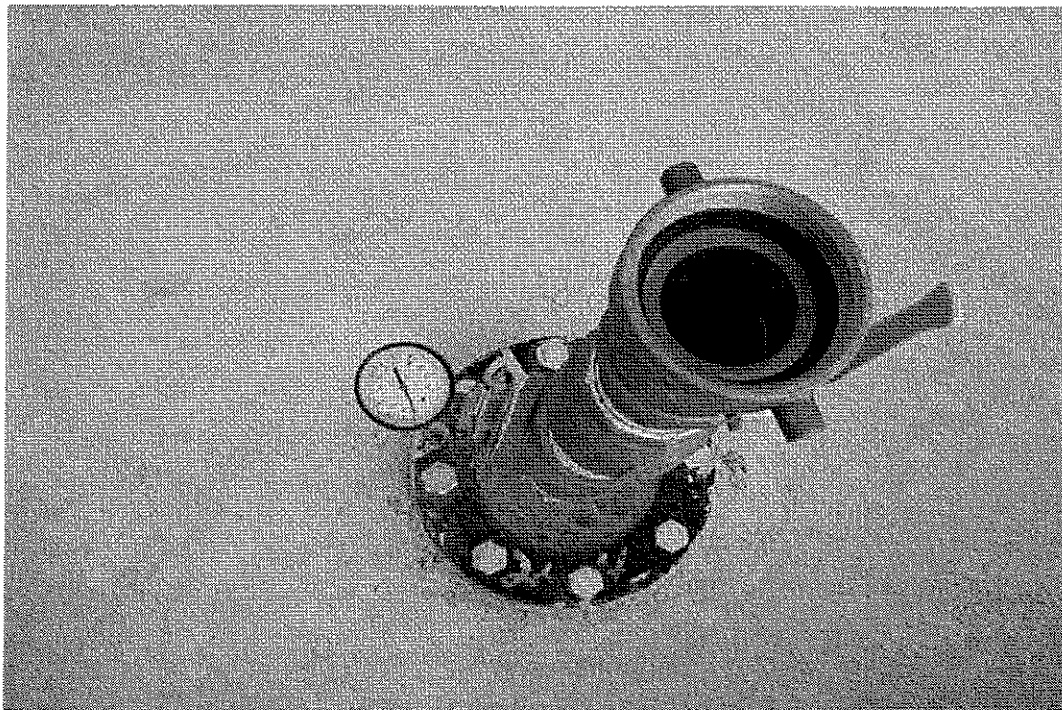


Photo No. 10 – Test Gage From Pressure Test